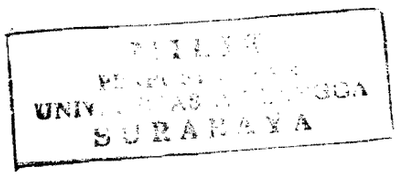
TESIS

PENGARUH KONSENTRASI EKSTRAK BONGGOL NANAS YANG BIOKOMPATIBEL DAN WAKTU KONTAK TERHADAP JUMLAH *STREPTOCOCCUS SANGUIS* PADA PERMUKAAN GIGI

PENELITIAN EKSPERIMENTAL LABORATORIS



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PROGRAM PASCASARJANA
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TESIS

Untuk memperoleh Gelar Magister
dalam Program Studi Ilmu Kesehatan Gigi
pada Program Pascasarjana Universitas Airlangga

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ABSTRACT

Key words : antiplaque

extract of pineapple core

Streptococcus sanguis

Gingival inflamation is the most commonly periodontal disease that often occur. The primary factor causing gingival inflamation is plaque. The formation of the plaque can be prevented by using the mouthrinse containing enzyme (proteolytic of enzyme). The aim of this study was to determine the optimum concentration of the biocompatibled pineaplle core extract and contact time for reducing the amount of *Streptococcus sanguis* on tooth surface.

This study conducted on two stages. The first stage was the biocompatibility pineapple core extract test. This stage was conducted on 105 culture bottles that was divided into 7 groups, consisted of 5 cell culture bottles each. The extract of the pineaplle core of 10%, 20%, 30%, 40% and 50% concentration were put on the 1, 2, 3, 4 and 5 culture bottles in 60, 90 and 120 seconds. Group 6 was put on Chlorhexidine 0,2% as positive control group, group 7 was put on steril aquadest as negative control group. The second stage was the concentration of the biocompatibled pineaplle core extract and contact time againts the amount of *Streptococcus sanguis* on tooth surface test. This stage was conducted on 90 tooth slabs that was divided into 6 groups, consisted of 5 tooth slabs each.The biocompatibled pineapple core extract of 10%, 20%, 30% and 40% concentration were contacted the 1, 2, 3 and 4 tooth slabs in 60, 90 and 120 seconds. Group 5 was contacted Chlorhexidine 0,2% as positive control group, group 6 was contacted sterile aquadest as negative control group. The collected data was than statistically analyzed by using analysis of variance one way at a 0.05 level and Tukey's HSD test.

The result of the study showed that (1) there was not significant difference between concentration 10% to 40% group with negative control group ($p > 0,05$) and there was not a significant difference between contact time ($p > 0,05$), (2) there was a significant difference between all group ($p < 0,05$). A 40% concentration of the pineaplle core extract was the optimum concentration for reducing the amount of *Streptococcus sanguis* on tooth surface. The optimum contact time for reducing the amount of *Streptococcus sanguis* on tooth surface was 120 seconds.

The conclusion of this investigation showed that a 40% concentration of the pineaplle core extract that biocompatibled and 120 seconds contact time were the optimum concentration and contact time for reducing the amount *of Streptococcus sanguis* on tooth surface.